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ABSTRACT

Examination of a small segment of French morphology involving the role of the final consonant illustrates the applicability of the natural morphology approach to linguistic analysis. Representative examples of modern French adjectival, verbal, and nominal word forms are subjected to analysis in terms of iconic, non-iconic, and counter-iconic structure. The analysis also includes historical perspectives on the feminine, subjunctive, plural suffix, and prefix from late Latin and Old French. Extensive naturalness is found in this restricted corpus. The study concludes that the principal contribution of the natural approach is the maximization of the importance of iconicity of linguistic form, an aspect recognized but minimized in recent linguistic study, and that natural morphology appears to be a promising framework for both synchronic and diachronic morphological investigation in such areas as suppletion, verb stem allomorphy, and the rise of prefixation in nouns and verbs. (MSE)

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Explaining French morphology 'naturally'

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1. Introduction

During the last decade, a theory of morphological investigation called *Natural Morphology*, as represented in the works of Dressler, Mayerthaler, and Wurzel, has become prominent in the linguistic literature. This approach is based on the semiotic system of C.S. Peirce, but it may also be seen as an organic continuation of the work on markedness of the Prague School of linguistics in the 30's and 40's. (1) It focusses on those aspects of language structure which are *natural* and non-arbitrary. The arbitrariness of language has been a given in linguistics ever since Saussure. Natural Morphology attempts to counter such a line of reasoning. It cannot, of course, deny the existing arbitrary connections of much of linguistic structure; but it considers them as *deviations* from a natural, one-to-one correspondence of meaning and form. There is strong emphasis on the functional role of morphology, opposing the natural approach to more *formal* models. (2) This also leads to an interest in the psychological reality of morphological constructs, to 'external' or 'substantive' evidence, and to research in diachronic morphology. (3) The essence of the descriptive apparatus employed is *constructional iconicity*, the basis of morphological naturalness (Mayerthaler 1981:25). It can clearly and simply be illustrated with the English singular *cat* and plural *cats*. Semantically, the plural uncontroversially contains something *extra* over the singular, being secondary also in terms of language

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acquisition. The formal morphological representation **cats** reflects this directly, as the sequence will be interpreted as singular **cat** plus the plural morpheme **s**.

The purpose of this paper is to show how a small section of French morphology, involving the role of the final consonant, can be subjected to a natural morphological analysis and what insights may be gained in the process.

2. Data

Entirely representative examples of Modern French adjectival, verbal, and nominal morphology are introduced under (1).

(1)

		Orthography	Standard	Non-standard
Adjective: gender (M/F)	a.	*mauvais,e*	[mɔvɛ + z]	ibid.
		petit,e	[pəti + t]	ibid.
	b.	*large*	[larž]	ibid.
		nu,e	[nů]	[nů + t]
Verb: number (3s/p)	a.	*lit,lisent*	[li + z]	ibid.
	b.	*arrive,nt*	[ariv]	[z + ariv]
		joue,nt	[žu]	[žu + z]
		parle,nt	[parl]	ibid.
Verb: mood (PI/S)	a.	*lit,lise*	[li + z]	ibid.
	b.	*arrive*	[ariv]	ibid.
		joue	[žu]	[žu + z]
		parle	[parl]	ibid.
Noun: number(sg/pl)	a.	*ami,s*	[ami]	[z + ami]
	b.	*femme,s*	[fam]	[le + fam]
Noun: number(sg/pl)	a.	*oeuf,s*	[oef][ő]	[oef][zǒ]
	b.	*cheval,aux*	[šəval]	[lə + šəval]
			[šəvo]	[le + šəval]

Let us analyze the forms of the standard language in terms of a three-way division of (a) iconic, (b) non-iconic, and (c) counter-

iconic structure.

2.1. Iconicity

The adjectival data (a) manifest *iconic* structure, as the feminine forms, unquestionably marked over the masculine, also exhibits the 'extra' consonant as a suffix and overt morpheme ([z] and [t] in the given data). (If focussing on the orthography, one could consider the final *-e* as the same marker). (4) Similarly, the 3p verbal form *lisent* and the subjunctive *lise* signal the marked categories of plural and subjunctive, respectively, by means of the same consonantal suffix [z].

2.2. Non-iconicity

The standard data are characterized by mostly *non-iconic* structure. It is well known that the majority of French adjectives are of type (b), with one form for both genders. In addition, the proto-typical verb is one of the 1st conjugation, as given under (b), for which the plural and the subjunctive are not overtly marked. Finally, the default type of nominal plural is phonetically identical to the singular (*femmes*). (5)

2.3. Counter-iconicity

A highly exceptional plural like [ø] for singular [oef] must be classified as *counter-iconic,* since the singular contains the 'extra' consonant, countering the semantic marked vs. unmarked relationship. The *-al / -aux* pair, and similar alternations, could be considered either counter- or non-iconic.

3. Discussion of non-standard trends

3.1. Move to additional iconicity in non-standard French

An increase in iconic structure is detectable in tendencies of the spoken language in several varieties of French. Baxter (1985:26) suggests that a general feminine morpheme /t/ seems to be imposing itself, according to a rule as given in (2):

(2)

$$[+\ \text{fem}] \rightarrow \left\{ \begin{array}{c} \emptyset\ /\ C \\ \\ t\ /\ V \end{array} \right\}]\ +\ \text{Stem}\ __$$

By such a formulation,a /t/ would only be added to a vowel-final stem, thus creating iconicity for the feminine adjective (cf. [nüt]). Consonant-final stems, on the other hand, continue with a uniform M/F shape (to be explained below).

As reported by Reighard 1980, in Quebec French vowel-final 1st conjugation verbs regularly take on syllable-closing /z/ in monosyllabic stems, and /s/ or /z/ in polysyllables in both the PI (present indicative) 3p (third person plural) and in the PS (present subjunctive) 3s (third person singular): *jouent* becomes *jousent*, *joue* (PS) becomes *jouse* (cf. also *continuent* ~ *continussent*, and *continue* (PS) ~ *continusse*). Such developments result in suffixed iconicity for plural and subjunctive. It is possible to consider the existence of prefixal iconicity for the plural of a vowel-initial verb like *arriver*. A sequence of *ils* + 3p *arrivent* could be segmented with [z] as a prefix to the plural of the verb form (cf. Klausenburger 1984:32). As can be seen,

non-iconicity thus remains in the verb only for stems that both begin and end in a consonant (cf. [parl]), to be discussed below.

The prefixal iconicity of nominal plurals by means of /z/ has been established for some time, both for nouns and adjectives (cf. in particular Morin and Kaye 1982). Its reality becomes overt through 'false liaison' data like *beaucoup de z-enfants, des avions à réaction z-américains, quatre z-hommes, des mini-z-ordinateurs* (and in child language, encoded in an advertised *'jeu z'animo'*). Picard (1984:218) maintains that a /z/ may occur with all cardinal numbers from 2 to 10, a consonant which is segmentable as both a suffix of the numeral or as a prefix of the following vowel-initial noun. (6)

Finally, another means of establishing iconicity of plurality in the noun is, of course, by way of the definite article, at this point still a syntactic operation; but there is good evidence for the eventual morphologization of the DA (by way of cliticization) as a prefix for consonant-initial nouns (cf. [lefam]) (cf. for details in Ashby 1976). It may also remove the non- or counter-iconicity of *chevaux*, resulting in the (fairly common) *les chevals*.

3.2. Remaining non-iconicity: perceptual salience

Under the non-standard column of (1) remain *large* and *arrive* (PS) and *parle* (PS) as non-iconic examples. Even these, however, exhibit a degree of 'naturalness', if this concept is extended to include *perceptual salience*. An adjective like *large*, at first glance, appears to violate naturalness as it represents

historically the generalization of the (marked) feminine form. Baxter (1985:182-6) demonstrates that in Old French consonant-final (or consonant cluster-final) masculine adjectives became 'perceptually deficient' as their stems were modified and reduced due to the inflectional /s/ in the *cas sujet* singular and the *cas régime* plural, as illustrated for *larc* 'wide' in (3):

(3)

M

	sg		*pl*	
c.s.	[lars]		[lark]	*larc*
c.r.	[lark]	*larc*	[lars]	

F

	sg		*pl*	
c.s.	[larʒə]	*large*	[larʒəs]	*larges*
c.r.	[larʒə]		[larʒəs]	

In such a paradigm, the feminine stem stays intact as it is 'protected' by the following vowel (morpheme) schwa, which renders it more salient perceptually than the masculine. Baxter concludes that perceptual salience is a strong enough factor to motivate markedness reversal, leading to the appearance of *large* (and *vide, sale, jeune, honnête,* etc.) for both genders in Modern French. (7)

The generalization of a perceptually more salient allomorph appears equally plausible for 1st conjugation verbs. Inflectional /s/ plays a major role in the verb in Old French also, functioning as the morpheme of the 2s (second person singular). This consonant and the third person singular morpheme /t/ cause the

same stem modifications and reductions as in the noun, as given in (4):

(4)

	PS	PI
1s	*arrif* [arif]	*arrif* [arif]
2s	*arris* [aris]	*arrives* [arivəs]
3s	*arrit* [arit]	*arrive* [arivə]

The replacement of the 2s and 3s PS by the PI restores the 'salient' final consonant. *Parler* in Old French constitutes a slightly more complex paradigm, as seen in (5)(Einhorn 1974:60):

(5)

	PS	PI
1s	*parol*	*parol*
2s	*parous* [parows]	*paroles*
3s	*parout* [parowt]	*parole*
1p	*parlons*	*parlons*

The take-over of the 1p stem [parl] in the PI and its transfer to the PS result in the generalization of an allomorph with 'phonetic integrity' and perceptual salience. (8)

4. Towards 'optimal' naturalness?

We have seen that non-standard trends in French lead to a (more) natural morphological structure involving the final consonant. Actually, however, only *constructional iconicity* (or morphotactic transparency) has been established by the various tendencies. There is no corresponding

(a) morphological biuniqueness

(b) phonological biuniqueness

(c) semantic transparency

for the following reasons:

(i) the final consonant marks simultaneously three different morphological categories: gender, number, and mood;

(ii) it is variable: /v,s,z,d,t,n,m,p/) (only /z/ and /t/ are shown in the data under (1)).

Reason (i) results in the absence of parameters of naturalness (a) and (c), while (ii) means the lack of parameter (b). What would constitute a 'perfectly natural' state of affairs? First, one consonant would have to be selected for the feminine marker. Given the trends discussed, /t/ seems to be the best candidate. Second, a unique consonant would have to mark plural. Again, a readily available one exists, i.e. /z/. Third, the subjunctive mood will have to be consistently signalled by one consonant. In this case, however, no obvious candidate offers itself.

5. Historical remarks

5.1. The feminine and subjunctive markers

For (late) Latin one can, *grosso modo*, consider the feminine morpheme to be the suffix /a/, while the masculine was signalled by /o/. In the verb, again slightly over-simplified, 1st conjugation verbs had the subjunctive marked by the vowel /e/, while non-1st conjugation verbs exhibited the vowel /a/ for this mood. It is significant that this system of markers selected the vowel /a/ for both marked morphological categories, the feminine gender, and, at least partially, the subjunctive mood. This fact becomes important because in the phonetic evolution from Latin to

French the vowel /a/ manifested more 'phonological strength' in unstressed position than the others, being reduced to schwa in Old French, but apocopated only in the 16th century, while non-low vowels were deleted by the Old French period already. As a consequence, the stem-final consonant of both the feminine and subjunctive was 'protected' from deletion in late Old French, affording the possibility of the Ø / C alternation today. An interesting speculation surrounds the following: What if /a/ had marked masculine and /o/ the feminine gender in Latin? In that case, the phonetic evolution would have led to a violation of markedness, to an unnatural situation in Modern French in which the final consonant would signal masculine, not feminine. (No appeal to 'markedness reversal' seems plausible in such a scenario!) 1st conjugation verbs, of course, in fact had this problem, as the vowel /a/ was present in the PI. We interpreted the restoration of the stem-final consonant in the subjunctive of these verbs as due to perceptual salience, similar to what happened in the adjective typified by *large*.

5.2. The plural suffix / prefix

As is well known, regular phonetic evolution (deletion of final consonants) removed the plural suffix [s] of Old French nouns and adjectives. The extant liaison remnants of this /s/ are now being re-analyzed as prefixes, amply proven by trends in colloquial speech enumerated above. (The plural prefix of the verb is not firmly established as yet). What is the likelihood of a general system of inflectional prefixation in Future French? Although such has often been assumed to be inevitable (cf. Pulgram 1967, Ashby 1976) there are potentially serious obstacles in the way of

this evolution from the stand-point of communication theory. (9) Note that from the perspective of Natural Morphology it makes no difference whether iconicity is established by suffixation of prefixation.

6. Conclusion, evaluation, and future work

How natural is French morphology? The theory of Natural Morphology would consider this the 'wrong' question. Instead, one should ask: How much (universal) naturalness is overt in Modern French? Our analysis of an admittedly very restricted corpus of French morphology has demonstrated quite extensive naturalness. No language at any synchronic slice can, however, achieve absolutely natural structure. This is because of the conflict among the different parameters of naturalness (cf. Dressler 1985b:324). The crucial opposition concerns, of course, morphological and phonological naturalness, the latter also referred to as *economy* by Haiman 1985. (10) The principal contribution of a natural approach is the maximization of the importance of iconicity of linguistic form, an aspect that has been recognized but usually minimized in the Saussurean tradition. As it is based on an underlying metatheoretical concept of naturalness of language structure, it makes strong claims. (11) Yet, as Dressler has stressed, one must consider them as *Erklärbarkeitsbehauptungen*, not as absolute explanations (1985b:321), and one must be content with 'probabilistic predictions' (p. 336). Natural morphology appears to be a promising framework for morphological investigation and ought to provide insights into both the synchronic and diachronic sides of

such topics as suppletion (a 'scandal' for Natural morphology, cf. Dressler 1985c), verb stem allomorphy (the locus of many crucial issues of classical generative phonology, à la Schane 1968), and the detailed analysis of the rise of prefixation in both the noun and the verb. (12)

Notes

1
Bybee 1985 has close ties to Natural Morphology, but relies on experimental and empirical investigations instead of subsuming her theory under a wider semiotic system or metatheoretical claim.

2
At the recent Milwaukee Morphology Meeting (April 4-6, 1986), the four dominant models repeatedly referred to in the presentations were Lexical Phonology and Morphology, Extended Word and Paradigm, Natural Morphology, and Bybee's empirical model. The first two approaches given are principally represented in the works of Kiparsky and Anderson, respectively, and have been labelled as more *formal* than the other two, which in turn are considered more *functional*.

3
For an outline of the program of Natural Morphology, see Dressler 1985b.

4
A logical extension of this position would be to consider the liaison consonant, which for prenominal adjectives is normally identical to the feminine marker, as a marked consonant, or, rather, to view liaison context as a 'marked' environment, similar to the marked categories of feminine gender, plural, and subjunctive mood. Such a result, based on Natural Morphology, would parallel the conclusion on the marked nature of the liaison consonant within very divergent frameworks like metrical phonology and concrete phonology à la Tranel 1981. See also Klausenburger 1984.

5
If prenominal liaison adjectives were included, plural would be marked ([grɑ̃-z-ɔm]) *grands hommes*, or even double iconicity would be present in case of the feminine, as in [pətiˑ-t-z-ami] *petites amies*.

6
Orr (1951:12) considers both /f/ and /z/ as plural inflections of the word for *egg*, in the idiolect of a Parisian grocer, showing the following distribution: /f/ is pronounced after the numerals *quatre, cinq, sept, huit,* and *neuf* (the latter, however, producing the non-euphonic sequence [nœfœf], usually replaced by *neuf beaux œufs*, or [nœf-z-ò]), while /z/ occurs after *deux, trois, six,* and *dix.* Swiggers (1985:64) comes to very similar conclusions, explaining the avoidance of *neuf œufs* as due to a rule of haplology across morpheme boundaries.

7
This modifies my position expressed in Klausenburger (1979:121) that morphophonological levellings, due to the loss of either a non-inverted or inverted morphologized rule (in the case of *large*

a SM-I), are not necessarily caused by semantic factors: perceptual salience may lead to markedness reversals.

8
Phonological modifications like consonant deletion, vocalization, and final devoicing, are *economical*, however, in the sense of Haiman (1985:157): *economy* is thus opposed to iconicity and contributes to its erosion.

9
Lůdtke (1980:279) argues: " It is certainly not due to chance that the most complex morphological systems develop in post-lexeme, not in pre-lexeme position, but rather due to the linear processing of the speech signal ... which entails that [inflections] are better perceived if the place where they are expected is indicated beforehand." Cf. Klausenburger 1985.

10
The pre-vocalic occurrence of the possessive *mon* in the feminine (cf. Plank 1984, Posner 1985) and the nasal allomorph of *un* may receive a plausible explanation within Natural morphology as neutralization in favor of the unmarked (masculine) and as morphology 'winning out' over phonology, respectively.

11
Dressler (1985a:375) ties Natural Morphology (and Natural Phonology) to "an increasingly broader unification of our view of the nature of man."

12
A more extensive study of mine, entitled *Parameters of naturalness in French inflectional morphology*, is in preparation.

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